

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) An electrophoretic mobility measuring apparatus comprising:

a cell capable of being filled with a sample, the cell including at least one cell wall;

a transparent electrode forming a part of the at least one cell wall;

an other electrode opposite to the transparent electrode;

a voltage applying means for applying a voltage across both electrodes;

a light incident unit for entering light into a region of the cell, wherein an electroosmotic flow substantially parallel to a face of the transparent electrode is generated ~~the cell~~ through the transparent electrode;

a light receiving unit for receiving, through the transparent electrode, outgoing light which scatters from the sample in the cell at a predetermined angle Θ with respect to the incident angle; and

a measuring unit for measuring the Doppler displacement of particles in the sample based on the difference in frequency between the incident light and the outgoing light, a direction of a scattering vector which is the vector difference between incident and outgoing vectors, being substantially identical with that of the normal line of the transparent electrode face.

2. (Previously Presented) An electrophoretic mobility measuring apparatus according to claim 1 wherein the direction of the scattering vector is substantially identical with that of an electric field.

3. (Previously Presented) An electrophoretic mobility measuring apparatus according to claim 1 wherein the cell-side face of the transparent electrode is coated with platinum or a platinum alloy.

4. (Previously Presented) An electrophoretic mobility measuring apparatus according to claim 1 wherein the cell inside is a casing-shape body provided at both end faces thereof with the electrodes, one of which is the transparent electrode.

5. (Previously Presented) An electrophoretic mobility measuring apparatus according to claim 4 wherein a scattering light measuring point is located between the center line of a rectangular parallelepiped or cylindrical casing-shape body, and an inner wall of a lateral side thereof.

6. (Currently Amended) An electrophoretic mobility measuring apparatus comprising:

a cell capable of being filled with a sample, the cell including at least one cell wall;

a transparent electrode forming a part of the at least one cell wall;

an other electrode opposite to the transparent electrode;

a voltage applying means for applying a voltage across both electrodes;

a light incident unit for entering light into the cell through the transparent electrode;

a light receiving unit for receiving, through the transparent electrode, outgoing light which scatters from the sample in the cell at a predetermined angle θ with respect to the incident angle; and

a measuring unit for measuring the Doppler displacement of particles in the sample based on the difference in frequency between the incident light and the outgoing light, a direction of a scattering vector which is the vector difference between incident and outgoing vectors, being substantially identical with that of the normal line of the transparent electrode face, according to claim 4 wherein the transparent electrode is formed on a transparent substrate that has at least two lateral sides besides a face on which the transparent electrode is formed, and[[,]] the light incident unit is arranged to enter light through one lateral side of the transparent substrate, and the light receiving unit is arranged to receive the light which outgoes through an other lateral side of the transparent substrate.

7. (Previously Presented) An electrophoretic mobility measuring apparatus according to claim 1, further comprising cell driving means for moving the cell in the direction of a normal line of the transparent electrode face, and in the direction at right angles to the normal line direction.

8. (Previously Presented) An electrophoretic mobility measuring apparatus according to claim 1 wherein the light incident unit uses a cylindrical lens for focusing the light on a scattering volume portion.

9. (Previously Presented) An electrophoretic mobility measuring apparatus according to claim 1 wherein the light receiving unit uses a cylindrical lens for detecting the light from a scattering volume portion.

10. (Currently Amended) An electrophoretic mobility measuring apparatus comprising:

a cell capable of being filled with a sample, the cell including at least one cell wall;

an opaque electrode forming a part of the at least one cell wall, wherein the opaque electrode has a transparent incident window upon which incident light is incident, and a transparent outgoing window through which outgoing light outgoes;

an other electrode opposite to the opaque electrode;

a voltage applying means for applying a voltage across both electrodes;

a light incident unit for entering light into a region of the cell, wherein an electroosmotic flow substantially parallel to a face of the opaque electrode is generated
~~the cell~~ through the transparent incident window of the opaque electrode;

a light receiving unit for receiving the outgoing light which scatters from the sample in the cell at a predetermined angle Θ with respect to the incident angle through the transparent outgoing window of the opaque electrode; and

a measuring unit for measuring the Doppler displacement of particles in the sample based on the difference in frequency between the incident light and the outgoing light, a direction of a scattering vector which is the vector difference between incident and outgoing vectors, being substantially identical with that of the normal line of the opaque electrode face, ~~and the opaque electrode having the transparent incident window upon which incident light is incident and the transparent outgoing window through which outgoing light outgoes.~~

11. (Previously Presented) An electrophoretic mobility measuring apparatus according to claim 10 wherein the direction of the scattering vector is substantially identical with that of an electric field.

12. (Previously Presented) An electrophoretic mobility measuring apparatus according to claim 10 wherein a cell-side face of the opaque electrode is coated with platinum or a platinum alloy.

13. (Previously Presented) An electrophoretic mobility measuring apparatus according to claim 10 wherein the opaque electrode is formed on a transparent substrate, the light incident unit is arranged to enter light through one lateral side of the transparent substrate, and the light receiving unit is arranged to receive the light which outgoes through an other lateral side of the transparent substrate.

14. (Previously Presented) An electrophoretic mobility measuring apparatus according to claim 10, further comprising cell driving means for moving the cell in the direction of a normal line of the opaque electrode face, and in the direction at right angles to a normal line direction.

15. (Previously Presented) An electrophoretic mobility measuring apparatus according to claim 10 wherein the light incident unit uses a cylindrical lens for focusing the light on a scattering volume portion.

16. (Previously Presented) An electrophoretic mobility measuring apparatus according to claim 10, wherein the light receiving unit uses a cylindrical lens for detecting the light from a scattering volume portion.

17. (New) An electrophoretic mobility measuring apparatus according to claim 6, wherein the direction of the scattering vector is substantially identical with that of an electric field.

18. (New) An electrophoretic mobility measuring apparatus according to claim 6, wherein the cell-side face of the transparent electrode is coated with platinum or a platinum alloy.

19. (New) An electrophoretic mobility measuring apparatus according to claim 6, wherein the cell inside is a casing-shape body provided at both end faces thereof with the electrodes, one of which is the transparent electrode.

20. (New) An electrophoretic mobility measuring apparatus according to claim 19, wherein a scattering light measuring point is located between the center line of a rectangular parallelepiped or cylindrical casing-shape body, and an inner wall of a lateral side thereof.

21. (New) An electrophoretic mobility measuring apparatus according to claim 6, further comprising cell driving means for moving the cell in the direction of a normal line of the transparent electrode face, and in the direction at right angles to the normal line direction.

22. (New) An electrophoretic mobility measuring apparatus according to claim 6, wherein the light incident unit uses a cylindrical lens for focusing the light on a scattering volume portion.

23. (New) An electrophoretic mobility measuring apparatus according to claim 6, wherein the light receiving unit uses a cylindrical lens for detecting the light from a scattering volume portion.